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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,285	01/30/2004	Zhichen Xu	200401879-1	4289
22879 7590 04/02/2010 HEWLETT-PACKARD COMPANY Intellectual Property Administration 3404 E. Harmony Road Mail Stop 35 FORT COLLINS, CO 80528				
EXAMINER HAMZA, FARUK				
ART UNIT 2455		PAPER NUMBER		
NOTIFICATION DATE 04/02/2010		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/767,285

Applicant(s)

XU ET AL.

Examiner

FARUK HAMZA

Art Unit

2455

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. In view of the Appeal filed on 01/11/2010, PROSECUTION IS HEREBY REOPENED. A New Ground of Rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

2. This action is responsive to the communication filed on January 11, 2010. Claims 18-20 and 24-26 have been canceled. Claims 1-17 and 21-23 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-17 and 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1, 14 and 21 recite "a method of identifying at least one node close to a first node in a network". In line 5, these claims recite "comparing distance from each of the first node" which implies there is more than one first node. Such recitation makes the claims ambiguous. It is unclear to the examiner what applicant meant by "the selection is made based on comparing distances from each of the first node and the plurality of nodes to each one of a plurality of global landmark nodes".

As to claim 14, it recites in the preamble "A node in a network comprising", the body of the claim include means for selecting, means for applying and means for identifying. The first, second and third means could be just software means. A system or an apparatus claim should always claim the structure or the hardware that performs the function. Applicant's claimed limitations do not describe the structure of the device. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As to claim 1, it is a method claim and thus must meet the particular machine or transformation test as set forth in *Bilski*. In this case, there is no particular machine or particular transformation. Rather, the claim seems to consist entirely of software which is not patentable per se. Claims 2-13 do not recite any particular machine or transformation that would render the claims patentable subject matter. Therefore, they are rejected based on their dependency.

As to claim 14, it recites in the preamble "A node in a network comprising", the body of the claim include means for selecting, means for applying and means for identifying. The first, second and third means could be just software means. Therefore claim 14 is non-statutory because it is directed towards software, per se, lacking storage on a medium, which enables any underlying functionality to occur. It is not clear whether instructions are in executable form and therefore there is no practical application.

As to claim 21, it is directed to a tangible computer-readable medium however, the tangible computer-readable medium may take the form of communicate media. Therefore the claim is directed to non-statutory subject matter. The specification also defines the computer readable media to be computer storage media which is statutory. The applicant may recite "non-transitory computer-readable media" to overcome 101 rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 7,9-17 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews et al. (U.S. Patent Number 7,020,698) hereinafter referred as Andrews and in view of Davis et al. (US 2005/0288031) hereinafter referred as Davis.

As the examiner best understands claim 1, Andrews teaches a method of identifying at least one node close to a first node in a network, the method comprising:

selecting a set of candidate nodes from a plurality of nodes based on location information for the candidate nodes and the first node, wherein the selection is made based on comparing distances from each of the first node and the plurality of nodes to each one of a plurality of global landmark nodes (abstract, Column 4, lines 8-Column 5, lines 18, Andrews discloses selecting closest content server based on distance from group of content server);

Andrews does not explicitly teach the claim limitation of applying a clustering algorithm to the location information for the candidate nodes and the first node and identifying a subset of the set of candidate nodes closest to the first node based on results of applying the clustering algorithm.

Davis teaches the claim limitation of applying a clustering algorithm to the location information for the candidate nodes and the first node and identifying a subset of the set of candidate nodes closest to the first node based on results of applying the clustering algorithm (P[0081-0082, 0087-0089]).

It would have been obvious to the ordinary skill in the art at the time of the invention to modify the system of Andrews by incorporating Davis teaching of clustering algorithm which would make the system more efficient to reroute communications while maintaining the integrity of the network with a minimal amount of interruption of service. One would be motivated to do such to enhance system's efficiency.

As the examiner best understands claim 2, Andrews teaches the method of claim 1, wherein selecting a set of candidate nodes comprises:

comparing location information for the plurality of nodes to the location information for the first node to select the set of candidate nodes from the plurality of nodes closest to the first node (Column 4, lines 8-Column 5, lines 18).

As to claim 7, Andrews teaches the method of 1, wherein the location information comprises distance from each of the first node and the plurality nodes to at least one local landmark node proximally located to a respective one of the first node and the plurality of nodes (Column 4, lines 8-Column 5, lines 18).

As to claim 9, Andrews teaches the method of claim 7, wherein the at least one local landmark node proximally located to a respective one of the first node and the plurality of nodes is one of on a routing path between the

respective node and one of the plurality of global landmark nodes and within a predetermined distance to the respective node (Column 4, lines 8-Column 5, lines 18).

As the examiner best understands claim 10, Andrews teaches the method of claim 1, further comprising:

determining distances to each of the subset of candidate nodes from the first node (Column 4, lines 8-Column 5, lines 18, Column 9, lines 34-Column 10, lines 63); and

selecting a closest node to the first node from the subset of candidate nodes based on the determined distances (Column 4, lines 8-Column 5, lines 18, Column 9, lines 34-Column 10, lines 63).

As the examiner best understands claim 11, Andrews teaches the method of claim 1, further comprising:

selecting a node from the subset of nodes based on at least one of distances to each of the subset of candidate nodes from the first node and quality of service characteristics associated with the subset of nodes (Column 4, lines 8-Column 5, lines 18).

As the examiner best understands claim 12, Andrews teaches the method of claim 1, wherein the clustering algorithm is an algorithm operable to identify similarities between the location information for the first node and the candidate nodes (Column 12, lines 10-28).

As the examiner best understands claim 13, Andrews teaches the method of claim 12, wherein the clustering algorithm comprises at least one a min_sum, max_diff, order, inner product algorithm, k-means, principal component analysis, and latent semantic indexing (Column 12, lines 10-28).

As the examiner best understands claim 14, Andrews teaches a node in a network comprising:

means for selecting a set of candidate nodes from a plurality of nodes based on location information for the candidate nodes and a first node, wherein the selection is made based on comparing distances from each of the first node and the plurality of nodes to each one of a plurality of global landmark nodes (abstract, Column 4, lines 8-Column 5, lines 18, Andrews discloses selecting closest content server based on distance from group of content server);

Andrews does not explicitly teach the claim limitation of applying a clustering algorithm to the location information for the candidate nodes and the first node and identifying a subset of the set of candidate nodes closest to the first node based on results of applying the clustering algorithm.

Davis teaches the claim limitation of applying a clustering algorithm to the location information for the candidate nodes and the first node and identifying a subset of the set of candidate nodes closest to the first node based on results of applying the clustering algorithm (P[0081-0082, 0087-0089]).

It would have been obvious to the ordinary skill in the art at the time of the invention to modify the system of Andrews by incorporating Davis teaching of

clustering algorithm which would make the system more efficient to reroute communications while maintaining the integrity of the network with a minimal amount of interruption of service. One would be motivated to do such to enhance system's efficiency.

As the examiner best understands claim 15, Andrews teaches the node of claim 14, further comprising:

means for receiving the location information for the plurality of nodes and the first node (abstract, Column 4, lines 8-Column 5, lines 18); and

means for storing the location information for the plurality of nodes and the first node (Column 4, lines 8-Column 5, lines 18).

As to claim 16, Andrews teaches the node of claim 15, further comprising:

means for retrieving the location information for the plurality of nodes and the first node from the means for storing (Column 9, lines 9-60); and

means for comparing the location information for the plurality of nodes and the first node to select the candidate nodes (Column 9, lines 9-60).

As the examiner best understands claim 17, Andrews teaches the node of claim 14, further comprising means for transmitting a list of the subset of candidate nodes to the first node (Column 10, lines 64-Column 11, lines 28).

As the examiner best understands claim 21, Andres teaches computer software embedded on a computer readable medium, the computer software comprising instructions performing:

selecting a set of candidate nodes from a plurality of nodes based on location information for the candidate nodes and a first node, wherein the selection is made based on comparing distances from each of the first node and the plurality of nodes to each one of a plurality of global landmark nodes (abstract, Column 4, lines 8-Column 5, lines 18, Andrews discloses selecting closest content server based on distance from group of content server);

Andrews does not explicitly teach the claim limitation of applying a clustering algorithm to the location information for the candidate nodes and the first node and identifying a subset of the set of candidate nodes closest to the first node based on results of applying the clustering algorithm.

Davis teaches the claim limitation of applying a clustering algorithm to the location information for the candidate nodes and the first node and identifying a subset of the set of candidate nodes closest to the first node based on results of applying the clustering algorithm (P[0081-0082, 0087-0089]).

It would have been obvious to the ordinary skill in the art at the time of the invention to modify the system of Andrews by incorporating Davis teaching of clustering algorithm which would make the system more efficient to reroute communications while maintaining the integrity of the network with a minimal amount of interruption of service. One would be motivated to do such to enhance system's efficiency.

As the examiner best understands claim 22, Andrews teaches the computer software of claim 21, wherein instructions performing selecting a set of candidate nodes comprises:

comparing location information for the plurality of nodes to the location information for the first node to select the set of candidate nodes physically close to the first node (Column 4, lines 8-Column 5, lines 18).

As to claim 23, Andrews teaches the location information comprises distances measured from each of the first node and the plurality of nodes to a plurality of global landmark nodes and to at least one local landmark node proximally located to a respective one of the first node and the plurality of nodes (Column 4, lines 8-Column 5, lines 18).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews in view Davis and further in view of Harvey et al. (U. S. Pub No. 2004/0054807) hereinafter referred as Harvey.

As to claim 3, Andrews teaches the method of claim 2.

Andrews and Davis do not explicitly teach the claim limitation of distributed hash table overlay network and storing location information in the distributed hash table overlay network.

However, Harvey teaches the claim limitation of distributed hash table overlay network and storing location information in the distributed hash table overlay network (abstract, P[0005]).

It would have been obvious to the ordinary skill in the art at time of the invention to modify combined system of Andrews and Davis by adding distributed hash table overlay network, which would allow gathering of data from nodes and dissemination of information to its participants. One would be motivated to do such to enhance system's performance.

As to claim 4, Harvey teaches the method of claim 3, further comprising: the first node hashing the location information for the first node to identify a location in the distributed hash table overlay network to store the location information for the first node (abstract, P[0005]).

As to claim 5, Harvey teaches the method of claim 3, further comprising: receiving the location information for the plurality of nodes at the node in the distributed hash table overlay network (abstract, P[0005]); and

storing the received location information for the plurality of nodes at the node in the distributed hash table overlay network (abstract, P[0005]).

As to claim 6, Harvey teaches the method of claim 5, further comprising:

retrieving the location information for the plurality of nodes and the first node from stored location information at the node in the distributed hash table overlay network (abstract, P[0005]); and

comparing the retrieved location information to select the set of candidate nodes proximally located to the first node from the plurality of nodes (abstract, P[0005]).

7. Priority art rejection is not applied on claim 8. It is rejected under 101, therefore, allowable subject matter is not indicated.

Response to Arguments

8. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faruk Hamza whose telephone number is 571-272-7969. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached at 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information

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for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll –free).

Faruk Hamza

Patent Examiner

Group Art Unite 2155

/Faruk Hamza/

Examiner, Art Unit 2455